Ocean Data Scenario Project Name(s) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

***Due Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***

**Directions:** You will choose or be assigned a scenario that requires the use ocean data to investigate. At the end of your research you will present the solution to your scenario to the class. Your presentation must include the following:

1. A restatement of the scenario/problem

2. A breakdown of the problem into researchable parts.

3. The types of data necessary to solve the problem.

4. A summary of the data.

5. Where you found the data.

6. An explanation of the best solution for the problem including the data to support your conclusion and why it was the best solution.

7. Other solutions you investigated but did not find useful and why they were not useful.

8. You may choose a paper, power point, poster, video, model, or other presentation tool approved by the teacher.

Scenario 1: You are a fisherman with a small family business that has been running for four generations. You have been asked by the NC Fisheries commission to investigate how an increase in ocean temperatures will affect the fishing industry. You have already noticed a drop in the numbers of small juvenile fish so you decide to accept the commission’s invitation to conduct the investigation.

Scenario 2: You are a yacht builder on the NC coast and your lawyer has a concern about whether your ship designs will handle rougher seas and higher waves. She has heard that climate change is going to bring more storms of higher intensity and wants to make sure you don’t get sued if one of you ships breaks apart at sea. She asks you to investigate historical trends in storms and wave height off of the NC coast.

Scenario 3: You are thinking about building a house on the coast and have heard that climate change will increase sea level. Since you want your kids and grandchildren to inherit the house, you want to make sure that the house is constructed to withstand storms and rising sea level. You decide to research historical sea levels and projected sea levels at Carolina Beach. You also begin to wonder if changes in ocean temperature may affect sea level because you remember a discussion about density in your high school chemistry class.

Scenario 4: You manage a fleet of North Atlantic fishing boats and are concerned that Arctic ice melt may change salinity and currents in the North Atlantic. You decide to prepare a report for the NA Fisheries Commission about current and projected conditions in the North Atlantic so a plan can be enacted to reduce the impact that the fishing fleet may be having on the North Atlantic.

Scenario 5: You are a geologist that just got a phone call about an earth quake off of the Alaskan coast. You are not sure if the earth quake really occurred because there is a lot of construction going on and dynamite is being used to break up rock. But must check quickly and assess the possibility of a tsunami. You need to do to complete a report for USGS.

Scenario 6: You are an aquaculturist and raise shrimp and oysters off of the NC coast. You need to investigate how climate change may affect your business in order to apply for a loan to expand your business. The bank is not willing to lend you money if you cannot show that you can continue to raise shrimp and oysters in large quantities.